# 3. FRAMEWORK FOR ALTERNATIVES ANALYSIS

Following systems planning, which results in the identification of transportation problems in priority corridors, the next major phase in the major investment planning process is alternatives analysis (AA). This chapter summarizes the scope of the alternative analysis phase and the steps involved in performing the study. This chapter also describes suggested documentation of the alternatives analysis effort, as well as the roles and responsibilities of the lead local agency performing the study and the Federal Transit Administration (FTA), which provides technical assistance to the study effort.

## 3.1 Overview of Alternatives Analysis

The AA study process is introduced in Part I Chapter I *Introduction to Major Investment Planning*. During alternatives analysis, the priority corridor identified in systems planning is studied in detail, focusing on the effects of alternative solutions to the corridor's transportation problems. Information on the costs, benefits, and impacts of each alternative is developed to provide a sound technical basis for project decisionmaking. The AA phase, at local discretion, may include the preparation of a draft environmental impact statement (EIS) or (less commonly) environmental assessment (EA) initiating the review process required by the National Environmental Policy Act of 1969 (NEPA); the NEPA decisionmaking process is described in greater detail in Part III Chapter I *The Draft Environmental Impact Statement* (expected to be updated by the end of 2005). At the conclusion of AA, local officials select a preferred mode and general alignment, adopt a plan for financing the project's capital and operating costs, and request FTA's approval to enter preliminary engineering.

The importance of a rigorous and objective AA study process cannot be understated. Alternatives analysis is the earliest, yet arguably most critical, phase of project development. The alternatives analysis study provides the information needed by local decisionmakers to consider the costs and benefits of several proposed strategies to addressing corridor problems, so that they may select a single alternative to advance into implementation. Since alternatives analysis is the forum for understanding the trade-offs inherent in making such a selection, it must provide a sufficient level of technical analyses necessary to support an informed decision. The locally preferred alternative – and all of its costs and benefits - which results from the alternatives analysis

study is THE project that local stakeholders are expecting to implement, and implicitly becomes THE project that FTA may potentially fund. Therefore, the alternatives studied must be objectively-defined, and planning-level predictions of their impacts must be reasonably accurate. The intent of this chapter is to lay the framework for these important local studies.

### 3.1.1 Corridor Focus

FTA's experience has been that corridor level planning is the most suitable setting for the selection of a preferred mode (e.g., heavy rail, light rail, bus, etc.) and alignment alternative for transit guideways. In contrast to systems planning, corridor planning allows for a more detailed analysis of the costs and benefits necessary to select a mode and alignment. For the most part, each corridor of an urban region has travel patterns that are independent of those in other corridors. Consequently - and unlike systems planning, where highway and transit networks change on a regional scale - corridor planning requires transportation networks to be the same outside of a given corridor so that the costs and benefits of alternatives can be properly identified. By focusing project decisionmaking at the corridor level, sufficient information on the costs and benefits of each mode and alignment alternative can be produced to provide a sound technical basis for selecting a preferred alternative. Accordingly, the selection of a preferred mode and general alignment is best made on a corridor-by-corridor basis.

### 3.1.2 Set of Promising Alternatives

The alternatives analysis phase examines a set of alternatives that have been shown to be promising solutions to the corridor's transportation problems. These alternatives are initially chosen on the basis of systems planning analyses that provide a preliminary review of, among other things, cost-effectiveness, financial feasibility, and potential fatal flaws.

The development of alternatives is described in great detail in Part II Chapter 2 *Definition of Alternatives*. The range of alternatives includes a no-build (or no-action) alternative, one or more fixed guideway options, such as light rail, heavy rail, or busway (which may include provisions for use by carpools), and at least one non-guideway transportation system management (TSM) alternative that represents the "best you can do without a guideway investment" (or "BycDwagi", for those who enjoy acronyms). The build and TSM alternatives should be structured so as to address the problems in, and goals and objectives for, the corridor and demonstrate the added benefits of higher levels of investment. It is therefore important that the alternatives exhibit a range of capital costs, including the least expensive and shortest guideway capable of addressing the transportation problems in the corridor.

The TSM alternative will normally serve as the baseline for evaluating the added costs and added benefits of a fixed guideway (New Start) facility. The TSM alternative includes such low cost actions as traffic engineering, express or enhanced bus service and other transit operation changes, and modest

capital improvements such as reserved lanes, park-and-ride lots, and transit terminals. It is designed to address specific transportation problems in the corridor and demonstrate the extent to which these problems can be solved without a major investment in new guideway facilities.

While the range of alternatives should include all reasonable and promising choices available to decisionmakers, it is normally desirable to keep the number of alternatives considered in alternatives analysis as small as possible. A large number of alternatives increases the complexity of the analysis process, adding to the time and cost of the study. A large number of alternatives also tends to create a final report which is too large and incomprehensible for the average reader. Where a large number of alternatives are proposed for advancement into alternatives analysis, FTA encourages local sponsoring agencies to perform a preliminary screening task early in the study to reduce the number of alternatives to a manageable few.

### 3.1.3 Major Steps in the Alternatives Analysis Process.

The alternatives analysis process may be divided into four major steps: Study initiation; development and refinement of alternatives and technical methodologies; analysis and evaluation; and selection of the locally preferred alternative. These steps necessarily follow one another in sequence, with the results of each phase serving as necessary inputs to the following phase.

During the AA study initiation phase, the roles and responsibilities of participating agencies are established, issues to be addressed in the study are defined, and the availability of data and models for addressing these issues is determined. The public involvement process is initiated. If the alternatives analysis study is undertaken concurrent with NEPA, these activities are synonymous with scoping. The study initiation phase typically results in a detailed scope of work, or work plan, for the study; a problem statement and corresponding goals, objectives, and preliminary evaluation measures which guide the subsequent analysis; and a conceptual definition of alternatives to be included in the study. The study initiation process is described in Part II Chapter 1, *Organization and Management* of this guidance.

Once the study has been initiated (and scoping is complete), the next step is to further refine the alternatives and the methods to be used in the analysis. This step is designed to ensure that all participants in the process are in general agreement with the alternatives and analytical methodologies before the technical analysis process is undertaken. This step often includes a preliminary analysis to screen out those alternatives that show the least amount of promise. Further guidance on the development of alternatives and analysis methodologies is contained in Part II Chapters 2 through 8 of this guidance.

The third step - the analysis, evaluation, and final refinement of the alternatives - constitutes the main technical work of the study. This step includes applying the methodologies developed for each of the study's technical functions to

assess the transportation, environmental, and financial impacts of each alternative. Agreement is achieved among the study participants on the technical results of the study. Further guidance on this step may be found throughout Part II of this guidance.

Once the technical results are agreed upon, the final step involves a) preparation of a final alternatives analysis study report (or the draft EIS if the study is undertaken under NEPA) summarizing and interpreting the results of the study; and b) the selection of the locally preferred alternative. The AA final report/draft EIS will pull together in one place all of the technical information deemed relevant to the selection of the preferred alternative; that is, it serves as a vehicle for decisionmaking. This selection process typically includes circulation of a final study report (or draft EIS), a public hearing, a local decision on the preferred alternative, and preliminary adoption of a financing plan for the preferred alternative's capital and operating costs. Part III of this guidance provides additional information on the preparation of the final AA study report/draft EIS and selection of the locally preferred alternative.

The technical elements which support the accomplishment of these steps includes travel demand forecasting; estimation of capital and operating costs; analysis of social, economic, and environmental impacts; and financial analysis. These technical elements are described in Part II of this guidance. Work is performed on each of these elements during each step in the alternatives analysis phase, as data is collected, methods are developed, analyses are performed and documented, and the results are presented for agency and public review, and taken into account in local decisionmaking. A strong documentation effort of these activities provides the detail necessary to manage the study, support the analysis, and present its results.

### 3.2 Documentation of the Alternatives Analysis

During the course of each alternatives analysis, the preparation of a number of discreet documents supporting the final AA study report is recommended. These include (but are not limited to) a report justifying the need for an improvement, such as a problem statement (or in the case of an alternatives analysis being performed as part of NEPA, project purpose and need); a series of reports describing the conceptual and refined definition of the alternatives under study; a report (or reports) describing the technical methodologies used in the alternatives analysis; and a report (or reports), that summarize the results of the analysis.

These technical documents are important for both internal management of the study and external communication of its analyses and results. Alternatives analysis and other project planning studies often require a large commitment of resources, both in funding and staff time. The effort proceeds most quickly and efficiently when participating agencies – local, State and Federal – reach agreement early in the study on the problem statement, alternatives being

analyzed, and the specific methods and assumptions to be used in the study. This generally helps minimize the chance that participating agencies will take issue with the results of the study because of a disagreement over methods and assumptions, and reduces the chance that part of the study will need to be redone. A robust - and timely - technical documentation effort facilitates this important coordination function.

Moreover, the breadth of the study's technical analyses is best managed and presented when documented separately from the study itself. The final product of the alternatives analysis is a final study report which, if undertaken under NEPA, is typically the draft EIS. Whether performed "inside" or "outside" of NEPA, FTA suggests that the alternatives analysis document be as concise as possible, and written for a broad audience which includes both local decisionmakers and the general public. More detailed information and analysis can be covered in the series of technical reports subsequently made available for review by all interested parties.

Documentation of methodologies, assumptions, and results helps meet other objectives as well. FTA has long believed that a comparison of planning-level *forecasts* of project scope, cost, and performance with the *actual* scope, cost, and performance of implemented New Starts investments would provide the transit and transportation planning communities with a better understanding of the impacts of major transit capital investments and the analytical methods and procedures used to generate the information needed to support local decisionmaking. This enhanced understanding would, in turn, help identify needed improvements to related tools and techniques for corridor planning. As noted in Part I Chapter 1, *Introduction to Major Investment Planning*, the *Final Rule on Major Capital Investment Projects* includes a provision whereby New Starts project sponsors seeking a Full Funding Grant Agreement (FFGA) must submit a complete plan for collection and analysis of information to identify the impacts of their projects and the accuracy of the forecasts that were prepared during project development. This "Before and After Study" collects information on, and analyzes the predicted vs. actual results of, the following five project characteristics:

- *Project Scope* – the physical components of the project, including environmental mitigation;
- *Service Levels* – the operating characteristics of the guideway, feeder bus services, and other transit services in the corridor;
- *Capital Costs* – total costs of construction, vehicles, engineering, management, testing, and other capital expenses;
- *Operation and Maintenance Costs* – incremental operating/maintenance costs of the project and the transit system; and,
- *Ridership Patterns* - origin/destination patterns of transit riders on the project and in the corridor, and farebox revenues for the transit system.

Although a formal plan for the Before and After Study is not required until final design (and only then for projects seeking a FFGA), candidate New Starts project sponsors must be aware that the element of the study relating to predicted project impacts requires that methodologies, assumptions, and resulting information for each of the five characteristics must be fully documented at the conclusion of alternatives analysis (and later, at the conclusion of preliminary engineering) in order to perform an effective and meaningful study. Consequently, a strong documentation effort of the technical work supporting the AA effort is critical to the ultimate success of a Before and After Study.

Figure 3-1 on the following page provides a suggested hierarchy of technical documentation for an alternatives analysis. Following agreement on a study scope of work, initial efforts and documentation are focused on refining a corridor problem statement (or purpose and need, if the study is undertaken under NEPA), goals and objectives, and at least a preliminary set of evaluation factors and conceptual alternatives designed to address identified corridor problems and needs. This is followed by refining the set of alternatives to the point that their implications for the technical work can be identified. Once agreement on a specific definition of alternatives is reached, work can proceed on the preparation of the methodology reports that describe the technical procedures and methods which will support the study. Following the finalization of the methodologies, the heart of the technical work occurs. The results of this work are documented in one or more results reports. Collectively, this body of documentation backs up the alternatives analysis study.

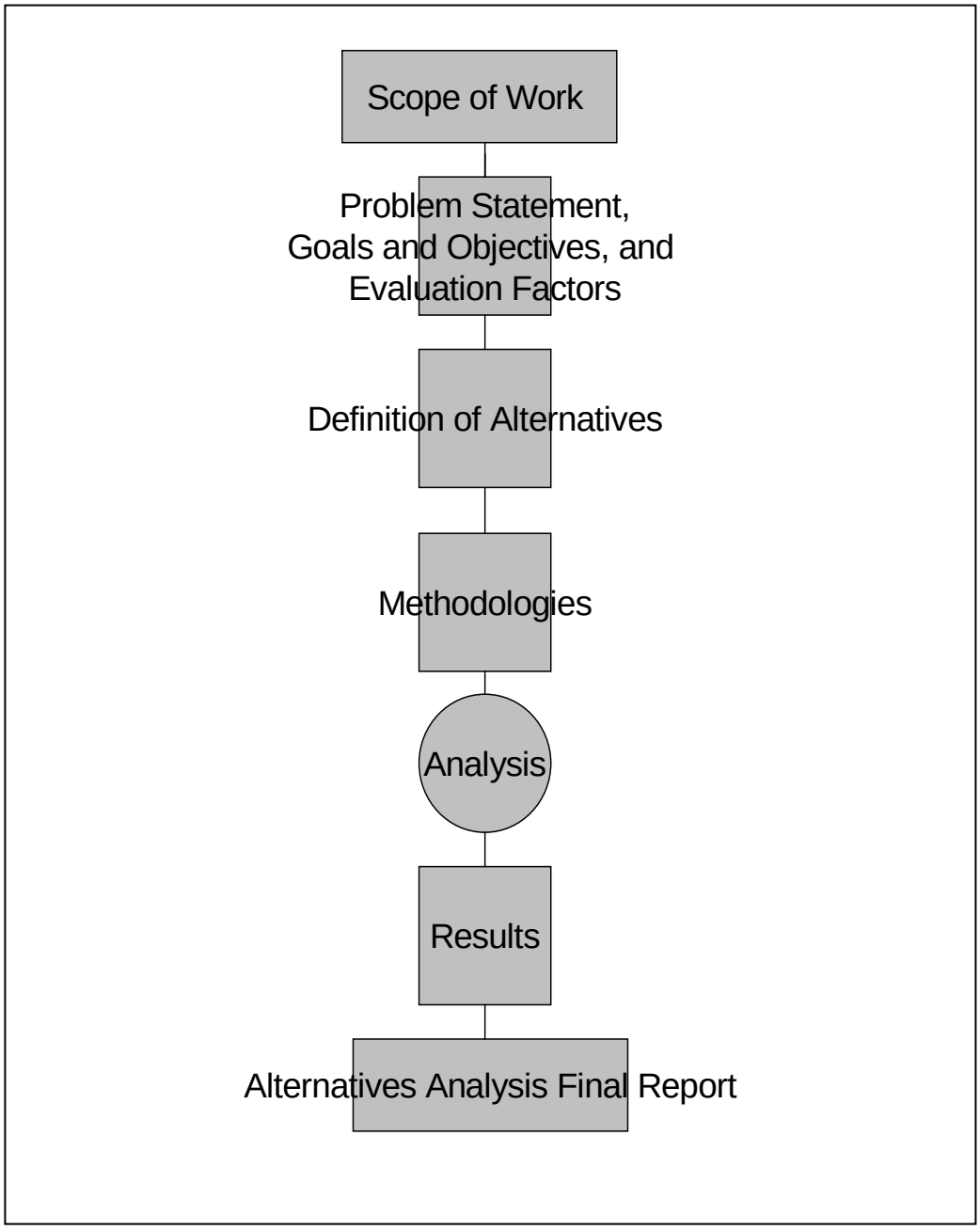
Reports/documentation on a corridor problem statement, range of alternatives, technical methodologies, and analytical results should be reviewed by participating local, state, and Federal agencies, usually through a study advisory committee. To ensure that the study is being conducted in accordance with FTA principles for alternatives analysis, and that the information generated from the study can support a local request to advance a preferred alternative into preliminary engineering, FTA requests the opportunity to review and comment on this documentation as it is being developed. The local lead agency's study schedule should provide sufficient time for these reviews, as well as for possible revisions in response to comments.

### 3.2.1 Approach to Documentation

The contents of the technical reports and other deliverables described below are discussed in subsequent chapters of this guidance. FTA notes that while the term "report" is applied in this chapter to each of the documents, there is no specific format for them; they may just as easily be titled "technical memoranda." Of the key documentation that FTA requests the opportunity to review (see Section 3.2.1.5 of this chapter), FTA suggests that the technical methodologies be brief, and focus on those aspects of the methodologies that either vary from FTA guidance and/or are necessary to understand the

approach taken (such as assumed parametric capital costs, O&M cost productivities per unit of service, or utility coefficients used in the travel forecast model). Ultimately, the most important point to remember is that

*Figure 3-1*
*Technical Documentation for Alternatives Analysis*



agencies should organize and produce their technical documentation in whichever way is most useful to serve the information needs of project staff and decisionmakers, provided that FTA is given an opportunity to review and comment upon information pertaining to the key study milestones described below.

#### 3.2.1.1 Initial Study Products (Problem Statement, Goals and Objectives, and Evaluation Factors)

A clear understanding of transportation problems in a corridor plays a critical role in the AA study. A well-specified statement of the problem(s) for which alternative solutions are being analyzed is therefore a key early step of the corridor planning process. When undertaken as part of the NEPA process, a study "purpose and need" establishes the problems which must be addressed in the analysis; serves as the basis for the development of project goals, objectives, and preliminary evaluation measures; and provides a framework for determining which alternatives should be considered as reasonable options in a given corridor. More fundamentally, the statement of purpose and need serves to articulate why an agency is proposing to spend potentially large amounts of taxpayer's money to study various alternatives and ultimately implement a project which may result in significant transportation, community, and environmental costs, benefits, and impacts.

For studies performed outside of NEPA, the same type of information should be generated. Like the purpose and need statement, this information provides the context for performing the analysis and for identifying the measures against which alternatives strategies will be evaluated. It also serves as an introduction for decisionmakers and the public to the study area, its transportation needs, and the alternatives which are proposed to address those needs.

Additional information on the development of initial products of the AA study is provided in Part I Chapter I *Organization and Management*.

#### 3.2.1.2 Definition of Alternatives

The development of the various alternatives to be considered in the alternatives analysis process follows closely after the explanation of the corridor problem. The definition of these alternatives is a very important part of the study process. Without a set of alternatives that meet the study's problem statement and goals and objectives for improvement; which are structured to isolate the differences between potential solutions to an identified transportation problem; and which highlights the trade-offs inherent in the selection of a preferred alternative, even the highest quality technical analysis cannot produce the full set of information needed by decisionmakers.

The development and definition of alternatives is typically an iterative process, and is documented accordingly. Part II Chapter 2 of this guidance, *Definition of Alternatives*, outlines three suggested phases in the development of alternatives. First, a broad *conceptual definition of alternatives* may be developed as early as systems planning. This definition describes the physical and operating characteristics of a broadly identified range of alternatives in

very conceptual terms. Initial activities of the corridor analysis are focused on narrowing this range to a more manageable number to carry forward in the study. This "screening" and further refining of alternatives typically results in a *Detailed* (or *Draft*) *Definition of Alternatives Report* which summarizes the detailed parameters of the alternatives to be carried into the heart of the analysis. Ultimately, these surviving detailed alternatives undergo additional refinements - which include the equilibration of bus and rail operating plans to meet demand, agreement on other operating policies, parking capacities and user costs, and other policy and design features (including the development of plan and profile drawings) – and are documented in an update to the Definition of Alternatives Report typically titled the *Final Definition of Alternatives Report*.

Table 3-1 below summarizes characteristics of the *Conceptual*, *Draft* and *Final Definition of Alternatives Reports*.

*Table 3-1*
*Definition of Alternatives Reports*

| ***Conceptual Definition of Alternatives*** | ***Detailed (Draft) Definition of Alternatives Report*** | ***Final Definition of Alternatives Report*** |
|---|---|---|
| • Definition of corridor;<br>• Identification of technology alternatives;<br>• Preliminary identification of candidate alignments;<br>• General operating strategies | • Location and nature of improvements in the TSM alternative;<br>• Section-by-section description of each guideway alternative;<br>• Typical cross-sections of guideway facilities;<br>• Preliminary drawings of stations types;<br>• Initial specification of design standards;<br>• Design and opening year operating plans including initial estimates of transit network assumptions (routes, link speeds, headways, fares, etc.) | • Plan and Profile drawings for each guideway alternative;<br>• Refined design of stations and guideway facility cross-sections;<br>• Final operating plans based on travel demand forecasts including estimates of service requirements (transit vehicles, vehicle-miles, vehicle hours, etc.) for use in estimating capital and O/M costs. |

Additional information on the definition and documentation of alternatives is provided in Part II Chapter 2 of this guidance. FTA requests the opportunity to review the alternatives at each point (conceptual, detailed, and final definition) in their development as a part of its ongoing review of the technical alternatives analysis process and as a basis for its approval of a New Starts baseline alternative.

#### 3.2.1.3 Methodologies

The purpose of the methodology report(s) (or memoranda) is to 1) bring about agreement among the participating agencies with regard to the specific

technical methods and assumptions to be used in the analysis, and 2) document these methods and assumptions for use by others in subsequent analysis (including conduct of the Before and After Study). It must be emphasized that methodology reports are not to be viewed as academic treatises on the various technical analyses. Rather, they serve to document the initial technical work involving data collection, evaluation, and selection of methods and input assumptions, and plans for the application of these methods to the specific characteristics of the corridor and the alternatives. In most cases, these reports should emphasize this last consideration - how the analysis will be focused on the issues that will be important to the selection of a preferred alternative. Consequently, while work on the reports can commence early in the analysis, they are most useful when finalized after agreement is reached on the detailed definition of alternatives.

Thus, the methodology reports are interim documents which define the early technical work for the remainder of the analysis, including the refinement of alternatives. They are working documents designed to set forth guidelines for the remaining work, rather than unfocused, general discussions that contribute little to the conduct of the study.

Examples of specific methodology reports/memoranda include the following:

- Travel Demand Forecasting
- Traffic Impact Analysis
- Noise and Vibration
- Air Quality
- Social and Economic Impact Assessment
- Environmental and Natural Resource Impact Assessment
- Land Use
- Capital Costing
- Operations and Maintenance Costing
- Financial Analysis
- Evaluation of Alternatives
- Public Participation

Agencies may choose to document additional methodologies where local concerns dictate a particular emphasis.

Methodology documents may range in length from a few pages each to several hundred if combined into a single volume. Nothing dictates the length of any report or memoranda except the amount of information necessary to articulate the procedures, tools, and assumptions used to carry out the analysis. FTA notes that, at the discretion of the study sponsor, documentation of the technical methodologies used in the AA study which are submitted to FTA for review (see Section 3.2.1.5) can be limited to a presentation of *how* the

methodologies deviate from FTA guidance, and *why*. Local agencies have full discretion in how they organize the documentation of technical methodologies.

#### 3.2.1.4 Results Reports

The series of results reports/memoranda provides detailed documentation for each of the key technical areas, presenting findings and explanations in detail sufficient to serve as back-up to the alternatives analysis study report. Thus, the results will be more detailed than those included in the final alternatives analysis, and will summarize and explain the analysis results and focus on those findings which are most significant. If necessary, they also highlight any changes in the methods and assumptions presented in the methodology reports.

Topics of results reports are typically aligned with the example technical areas described previously.

#### 3.2.1.5 Key Documentation for FTA Review

While participating local and state agencies are responsible for ensuring that the AA study is conducted in a technically sound manner, FTA, as a key funding partner and advocate for good planning practice, has a strong interest in ensuring the quality of the work. Moreover, Federal law requires that FTA approve project entrance into the preliminary engineering (PE) stage of development, signifying inclusion of a project in the New Starts "pipeline." FTA bases its decision to advance a project into PE in large part on the information and data developed during alternatives analysis. To ensure that this information satisfies its needs at the time of the PE request, FTA strongly recommends that study sponsors extend to FTA the opportunity to participate in the AA study. FTA believes that such early involvement will assist local agencies in addressing technical and procedural issues early in the study process, rather than at the end when it may be too late to solve them efficiently. Moreover, in order to avoid duplication of effort in subsequent project development activities, and to help ensure that the alternatives analysis process "counts" for the purposes of required NEPA documentation, study sponsors are advised to involve FTA in the AA study.

To that end, FTA strongly encourages study sponsors to prepare and transmit for review a number of key study documents developed throughout the alternatives analysis. These specific documents, and where additional information on their development and content can be found in this guidance, are presented in Table 3-2 on the following page. As previously noted, documentation of the technical methodologies used in the AA study which are submitted to FTA for review may be limited to a presentation of how the methodologies deviate from FTA guidance, and why.

It is FTA's expectation that a close local-Federal partnership, through the sharing of such study documentation, will expedite, rather than delay, the advancement of well-justified major capital transit investments throughout the project development process; that these proposed projects will better respond to local transportation problems within a fiscally constrained decisionmaking

environment; and that their justification will hold up to the scrutiny placed upon them by local and Federal decisionmakers.

*Table 3-2*
*Key Documentation for FTA Review*

| ***Documentation*** | ***Where Found in this Guidance*** |
|---|---|
| Scope of Work | Part II.1 |
| AA Initiation Package (Problem Statement, Conceptual Alternatives, and Evaluation Measures) | Part II.1 |
| Technical Details | |
| Detailed Definition of Alternatives | Part II.2 |
| Technical Methodologies | |
| Capital Costs | Part II.3 |
| O&M Costs | Part II.4 |
| Travel Forecasting | Part II.5 |
| Technical Results | |
| Final Definition of Alternatives | Part II.2 |
| Capital Cost Estimates | Part II.3 |
| O&M Cost Estimates | Part II.4 |
| Travel Forecasting (Summit) Results and Interpretation | Part II.6 |
| Environmental Considerations | Part II.7 |
| Evaluation of Alternatives | Part II.9 |
| Final Alternatives Analysis Report | |

### 3.3 Agency Roles and Responsibilities

The majority of the work required for the alternatives analysis study is usually performed locally by the transit operator, metropolitan planning organization, or other municipal agencies. The responsibility for the conduct of the study is often shared among several local agencies with one taking a lead role, often overseeing a large consultant staff performing much of the technical work. The following provides guidance on the responsibilities of the local lead agency, on the selection of an agency to be the local lead, and on the technical and procedural support role that FTA can play in the study.

If the AA study is initiated under NEPA, the state or local agency for compliance with NEPA under the Council of Environmental Quality regulations (40 CFR 1501.5 and 40 CFR 1501.6) will develop substantive portions of the environmental document and are expected to sign the document and share responsibility for its scope and content with FTA. At the beginning of the environmental process, FTA will discuss the scope and content of the

appropriate environmental documentation with the state or local agency before decisions are made on the scope and depth of analysis. The state or local agency then carries out these decisions. Regardless of which state or local agency leads the NEPA process, the other agencies involved in the alternatives analysis can, and are encouraged to be, cooperating agencies under NEPA. Additional information on agency roles and responsibilities under NEPA is described in greater detail in Part III Chapter I *The Draft Environmental Impact Statement* (expected to be updated by the end of 2005).

### 3.3.1 The Local Lead Agency

The local lead agency has the primary responsibility for overseeing the conduct of the alternatives analysis. It ensures that the work is performed in a technically sound manner, and is successfully completed in accordance with the project schedule and budget. The local lead may also perform all of the technical work, share responsibility for the work with other local agencies, or contract out all or part of the work to a consultant. Some of the more important activities involved in properly managing the study are:

- Development of a detailed scope of work/work plan identifying the tasks that will be performed, the sequence in which they will be completed, agency responsibilities for completing the work, and the anticipated cost of the respective study tasks.

- Identifying agency responsibilities for completing assigned tasks, and ensuring that the involved agencies are organized, staffed and supported so as to be able to fulfill their roles in a timely manner. Attention should be paid to ensuring that the staff is technically competent for the assigned tasks, and that interdisciplinary skills are brought to bear where necessary.

- Providing professional management and direction as the work progresses, ensuring that work is done in an efficient manner and that deliverables are obtained in a timely fashion.

- Taking necessary steps, such as establishing a technical advisory committee, to ensure the technical quality of the work.

- Coordinating with local cooperating agencies and FTA by means of study steering committees, monthly/quarterly reports, transmission of key study documents for review, etc.

- Keeping other interested agencies, private operators, and the public informed and seeking their input through established public involvement mechanisms.

- Responding to information requests by decisionmakers during the course of the study.

### 3.3.2 Choice of a Local Lead Agency

Performing an AA requires a wide range of skills—skills which may not all reside within one agency. In many cities, for example, the metropolitan planning organization may provide expertise in travel demand and land development analyses, but the transit operator will likely have greater experience in transit operations, project design, cost estimation, and financial analysis. Either or both may have project management ability. The distribution of these skills will probably be unique to each specific area contemplating and alternatives analysis study.

Many different kinds of agencies have served as the local lead for alternative analysis studies. These have included transit operators, metropolitan planning organizations, agencies of city government (e.g., departments of public works), state highway and transportation departments, and regional port authorities. From this experience, it is clear that any of these may be qualified to serve as the local lead. The choice will depend upon local conditions. Some questions that might be asked in considering which agency is most suitable are:

- Which agency has the greatest experience in conducting, managing, and administering similar types of corridor or systems level planning studies?
- Which agency has the greatest breadth and depth of technical skills needed for the analysis?
- Which agency tends to have greater credibility with decisionmakers and the public?
- Which agency is most likely to have responsibility for implementing the project that is ultimately selected?
- Do the jurisdictional boundaries of the proposed agency encompass the entire corridor?

Because a wide range of skills must be brought to bear to successfully complete an AA, more than one local agency frequently will play an active role. A memorandum of understanding may be helpful in such cases to clearly define the responsibilities of each participating agency. This might include responsibilities for the conduct of various study tasks, for funding the work, and for the selection of a locally preferred alternative.

### 3.3.3 FTA Involvement

FTA can play an important role in the alternatives analysis study process. When performed under NEPA, FTA plays a formal oversight role in the draft EIS or EA. As lead (or joint lead) agency for the preparation of the environmental document, FTA is responsible for the scope, content and conclusions of the EIS or EA. FTA makes sure that the environmental

document fulfills Federal requirements and presents a complete and objective basis for mode and alignment decisions.

FTA plays a less formal – though no less important - technical assistance role in "pre-NEPA"AA studies. This role recognizes that FTA has participated in the development of many of the methods and techniques used in the AA study. Over the years, FTA has helped dozens of cities across the country to apply these techniques in previous corridor planning studies. FTA welcomes the opportunity to share this experience with local staff engaged in ongoing and future studies. In addition, FTA must base its approval on project entry into preliminary engineering in part on its finding on the acceptability of the alternatives analysis and the reliability of the information used to support a preferred alternative's New Starts project justification criteria. FTA's review of the key documents described in Section 3.2.1.5 of this Chapter facilitates this finding.

AA study sponsors will generally be assigned an FTA contact from the appropriate Regional Office, who is teamed with a counterpart in the Office of Planning and Environment, located in FTA headquarters in Washington DC. These contacts will in turn work with other appropriate FTA technical staff (and, where appropriate, FTA consultants) to provide assistance on specialized areas such as travel demand forecasting, transit service planning, capital costing, financial planning, etc. In general, the Regional Office contact will provide assistance on programmatic procedures and requirements, while the headquarters contact will provide assistance on, and reviews of, the technical activities which make up the study. It is important to keep appropriate FTA staff informed on the status and progress of the local studies, and to seek their assistance in addressing difficult technical and procedural issues. FTA, in turn, strives to provide study sponsors with assistance in a timely manner, and to keep them abreast of emerging agency policies regarding major investment planning and the New Starts program.

#### 3.3.3.1 Role of Regional Offices (TRO)

The FTA Regional Office (TRO) will be the lead point of contact for local agencies on FTA programmatic matters. It handles grantmaking activities, serves as the focal point for contacts and correspondence, represents FTA at meetings, monitors progress, processes the draft EIS, and seeks assistance from the FTA Offices of Planning and Environment (TPE) and Program Management on planning, technical, and programmatic issues. TRO roles in the AA study process are summarized more specifically below:

- **Grantmaking**. TRO staff reviews grant applications, approves grants, and performs typical grant administration functions.

- **Provide Program Guidance**. TRO staff provides study sponsors with basic guidance on the New Starts program, including project

development requirements, project evaluation procedures, and grants requirements.

- **Focus of Contacts and Correspondence**. Incoming correspondence should be directed to the Regional Administrator. Similarly, most outgoing correspondence will be signed at the Regional level (with the exceptions noted in the following section). Regional staff will also normally handle informal requests for guidance and assistance, such as routine telephone calls, although a call within a specific technical focus should be directed to TPE (see Section 3.3.3.2 of this Chapter).

- **Representation at Meetings**. As necessary and to the extent permitted by limited resources, TRO staff will represent FTA staff at technical and policy level meetings that occur during the study. Their role will be to explain overall FTA policies and procedures, to explain FTA positions on specific issues related to the AA study and the process for advancing major transit investments into preliminary engineering, and to provide technical guidance (in conjunction w/ TPE).

- **Metropolitan and Systems Planning Issues**. TRO staff will provide guidance and direction on metropolitan planning requirements and issues which may impact the alternatives analysis study and subsequent project advancement, such as air quality conformity, fiscal constraint, and project programming.

- **NEPA Facilitation**. At the start of the scoping process for alternatives analysis studies performed concurrently with a draft EIS under NEPA, TRO prepares a Notice of Intent (NOI) to prepare an Environmental Impact Statement. TRO staff further facilitates other NEPA procedural requirements. Toward the conclusion of the study, it reviews and (with TPE concurrence) approves the draft EIS.

- **Processing and Approval of the PE Request**. Once the AA study has been completed, the locally preferred alternative has been adopted in the financially constrained regional long range plan, and FTA has determined that the project sponsor has the technical capacity to manage any subsequent project development activities, the lead local agency may request FTA approval to advance the preferred alternative into preliminary engineering. TRO is responsible for making the finding that a project is "ready" for PE (as measured by the conditions described above) and for processing and approving – based on TPE's evaluation of the project's New Starts criteria for project justification and local financial commitment, as described in the following section – the request to advance into preliminary engineering.

#### 3.3.3.2 Role of the Office of Planning and Environment (TPE)

TPE is the lead point of contact to local agencies on technical elements of the AA study. TPE develops guidance on the alternatives analysis study process, monitors and reviews key products of individual studies, offers specialized technical assistance on a project-by-project basis, approves a New Starts baseline alternative, and evaluates the project justification and local financial commitment criteria of projects proposed to advance into preliminary engineering. These roles are explained further below.

- **Guidance Development**. TPE oversees a program for the development of procedures and methods for carrying out an alternatives analysis study process. In that capacity it prepares guidance, manuals reports, regulations, software, and other materials on a number of technical and procedural topics. TPE also conducts training courses and workshops and shares good examples from past and current studies on technical analyses and decisionmaking.

- **Reviews Technical Products of the Study**. TPE performs the lead technical review of the documentation suggested in Section 3.2.1.5 of this Chapter.

- **Provide Specialized Technical Assistance**. TPE can provide project-specific technical assistance on a variety of planning methods and concepts, including travel demand forecasting, definition of alternatives, financial planning, costing, environmental analysis, public involvement, and procedural linkages between planning and NEPA. These technical assistance services are provided to any AA study sponsor to the extent possible, given available FTA resources.

- **Approval of a New Starts Baseline Alternative**. TPE provides assistance on the development of alternatives to be carried through the AA study, and will approve one alternative (typically, a properly defined TSM) to serve as the New Starts "baseline" for the purposes of calculating the project's cost effectiveness, mobility improvements, and environmental benefits. TPE will communicate this selection action to the lead local agency through the appropriate FTA Regional Office.

- **Evaluation and Rating of Candidate New Starts Projects**. TPE evaluates New Starts projects for the purposes of supporting FTA's decision to advance a project into preliminary engineering. This evaluation is based on the full range of New Starts project justification and local financial commitment criteria and measures. Information which supports each measure is generated as part of the alternatives analysis study. TPE's evaluation of this information results in criteria-specific and overall project ratings, which are conveyed to the appropriate FTA Regional Office for the formal approval/disapproval action.